Work Order ID 71904

Wednesday, July 13, 2011 11:17:12 AM

Item ID: D3196-4
Revision ID:
Item Name: Bar
Start Date: 7/14/2011 **Start Qty:** 4.00
Required Date: 7/28/2011 **Req'd Qty:** 4.00
Reference:

Accept **Setup Start** **Stop**

Cust Item ID:
Customer:

Run Start **Stop**

Approvals: **Process Plan:** MF **Date:** 11-07-13 **Tooling:** _____ **Date:** _____
QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

Draw Nbr	Revision Nbr
D3196	Rev C

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
100	BAND SAW	0.00				8	ϕ		
Bandsaw	**Memo**	0.00							
Jeaspa Bandsaw	Cut blank: (0.75" x 1.50") x 34.750" long Bar								
110	HAAS CNC VERTICAL MACHINING #1	0.00				8	ϕ		
HAAS 1	**Memo**	0.00							
HAAS CNC vertical machine #1	1-Machine D3196-4 as per Folio FA339 and Dwg D3196Identify as D3196-4□2-Deburr								
120	QC2- Inspect parts off machine FAI/FAIB	0.00				8	ϕ		
QC	**Memo**	0.00							
Quality Control									

Dart Aerospace Ltd

W/O: 71904		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: D3196-4 PAR #: _____ Fault Category: Machining NCR: Yes No DQA: CK Date: 11/09/12

11.835 Resolution: Scrap Disposition: Scrap QA: N/C Closed: CK Date: 11/09/12

NCR:		WORK ORDER NON-CONFORMANCE (NCR) $17.28						
DATE	STEP	Description of NC Section A	Corrective Action Section B: Initial Chief Eng	Action Description Chief Eng	Sign & Date	Verification Section C	Approval Chief Eng	Approval QC Inspector
11/09/06	110	1 part scrap, put in wrong direction. R.L. operator error LOA	[signature] QSIM	scrapa and destroy replace Qty 1 Batch# M118182	[signature] 11/09/07	[signature] 11/09/07	[signature] QSIM	[signature] 11/09/07

NOTE: Date & initial all entries

Work Order ID 71904

Wednesday, July 13, 2011 11:17:12 AM

Item ID: D3196-4 **Accept** **Setup Start** **Stop**

Revision ID:

Item Name: Bar

Start Date: 7/14/2011 **Start Qty:** 4.00 **Cust Item ID:**

Required Date: 7/28/2011 **Req'd Qty:** 4.00 **Customer:**

Reference:

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____ **Run Start** **Stop**

QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130	QC8- Inspect parts - second check	0.00							
QC	**Memo**	0.00				8	0		
Quality Control									
140	Chemical Conversion Coat per QSI005 4.1	0.00							
HandFinish	**Memo**	0.00							
Hand Finishing									
150	Grey Sandtex(Ref:4.3.5.6) per QSI005 4.3	0.00							
Powdercoat	**Memo**	0.00							
Powder Coating	START TIME: 12:50 ☐OVEN TEMPERATURE: 320°F ☐FINISH TIME: 1:20								

B.A 11/09/06

8x 0 M-L 11/09/07

8x 0 M-L 11/09/07

W117338

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	**STEP**	**PROCEDURE CHANGE**	**By**	**Date**	**Qty**	**Approval** Chief Eng / Prod Mgr	**Approval** QC Inspector

Part No: _____ **PAR #:** _____ **Fault Category:** _____ **NCR:** Yes No **DQA:** _____ **Date:** _____

Resolution: _____ **Disposition:** _____ **QA: N/C Closed:** _____ **Date:** _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	**STEP**	**Description of NC** Section A	**Corrective Action** Section B			**Verification** Section C	**Approval** Chief Eng	**Approval** QC Inspector
			Initial Chief Eng	**Action Description** Chief Eng	**Sign & Date**			

NOTE: Date & initial all entries

Work Order ID 71904

Wednesday, July 13, 2011 11:17:12 AM

Item ID: D3196-4 **Accept** **Setup Start** **Stop**

Revision ID:

Item Name: Bar

Start Date: 7/14/2011 **Start Qty:** 4.00 **Cust Item ID:**

Required Date: 7/28/2011 **Req'd Qty:** 4.00 **Customer:**

Reference:

Run Start **Stop**

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____

QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160	QC3- Inspect Part Finish	0.00				8	0	14	11/09/07
QC	**Memo**	0.00							
Quality Control									
170	Identify as per dwg & Stock Location ~~ST~~ 260	0.00			(8x)	11-09-07			
Packaging	**Memo**	0.00							
Packaging									
180	QC21- Final Inspection - Work Order Release	0.00				11/9/8			
QC	**Memo**	0.00							
Quality Control									

MF 11-09-08

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	**STEP**	**PROCEDURE CHANGE**	**By**	**Date**	**Qty**	**Approval** Chief Eng / Prod Mgr	**Approval** QC Inspector

Part No: _____ **PAR #:** _____ **Fault Category:** _____ **NCR:** Yes No **DQA:** _____ **Date:** _____

Resolution: _____ **Disposition:** _____ **QA: N/C Closed:** _____ **Date:** _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	**STEP**	**Description of NC** Section A	**Corrective Action** Section B			**Verification** Section C	**Approval** Chief Eng	**Approval** QC Inspector
			Initial Chief Eng	**Action Description** Chief Eng	**Sign & Date**			

NOTE: Date & initial all entries

Picklist Print

Wednesday, July 13, 2011 11:17:09 AM

Work Order ID: 71904

Parent Item: D3196-4

Parent Item Name: Bar

Start Date: 7/14/2011 **Required Date:** 7/28/2011

Start Qty: 4.00 **Required Qty:** 4.00

Comments: IPP Rev: A New Issue 05-11-08 JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M6061T6B0.750X01.500		Purchased	No			100	f	63.5746	2.89	12.16842			

6061-T6 Bar .750 X 1.50

Location	Loc Qty	Loc Code	
MAT003	63.5746		
116405	0.4492		
116604	1.5		
116623	1.6254		
118182	60		24.4 mR 11/09/02

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W/O:		WORK ORDER CHANGES					
DATE	**STEP**	**PROCEDURE CHANGE**	**By**	**Date**	**Qty**	**Approval** Chief Eng / Prod Mgr	**Approval** QC Inspector

Part No: _____ **PAR #:** _____ **Fault Category:** _____ **NCR:** Yes No **DQA:** _____ **Date:** _____

Resolution: _____ **Disposition:** _____ **QA: N/C Closed:** _____ **Date:** _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	**STEP**	**Description of NC** Section A	**Corrective Action** Section B			**Verification** Section C	**Approval** Chief Eng	**Approval** QC Inspector
			Initial Chief Eng	**Action Description** Chief Eng	**Sign & Date**			

NOTE: Date & initial all entries

DART AEROSPACE LTD	Work Order:	71984
Description: Bar	Part Number:	D3196-4
Inspection Dwg: D3196 Rev: C		Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
34.625	+/-0.010	34.625	✓		RG .02	
33.650	+/-0.010	33.650	✓		RG. 1H	
16.639	+/-0.010	16.639	✓		1A/1000	
0.488	+/-0.010	.488	✓			
0.962	+/-0.005	.962	✓			
0.464	+/-0.010	.462	✓			
0.504	+/-0.010	.502	✓			
Ø0.344	+0.006/-0.001	.345	✓			
Ø0.660 x 100°	+0.008/-0.001 x 0.5°	.660	✓			
0.512	+/-0.005	.512	✓			
0.060 x 45°	+/-0.010 x 0.5°	.060	✓			
4.750	+/-0.010	4.751	✓			
12.531	+/-0.010	12.531	✓			
16.627	+/-0.010	16.627	✓			
21.844	+/-0.010	21.844	✓			
29.625	+/-0.010	29.625	✓			
0.250	+/-0.010	.251	✓			
1.000	+/-0.010	.999	✓			
R0.125	+/-0.010	R.125	✓			
0.987	+/-0.010	.990	✓			

Measured by:	RG
Date:	11.9.6

Audited by:	B.A
Date:	11/09/06

Preliminary Approval:	
Date:	

Rev	Date	Change	Revised by	Approved
A	04.04.20	New Issue	KJ/RF	
B	06.10.24	Dwg Rev updated	KJ/JLM	
C	11.06.21	Dwg Rev updated	KJ	

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	**STEP**	**PROCEDURE CHANGE**	**By**	**Date**	**Qty**	**Approval** Chief Eng / Prod Mgr	**Approval** QC Inspector

Part No: _____ **PAR #:** _____ **Fault Category:** _____ **NCR:** Yes No **DQA:** _____ **Date:** _____

Resolution: _____ **Disposition:** _____ **QA: N/C Closed:** _____ **Date:** _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	**STEP**	**Description of NC** Section A	**Corrective Action** Section B			**Verification** Section C	**Approval** Chief Eng	**Approval** QC Inspector
			Initial Chief Eng	**Action Description** Chief Eng	**Sign & Date**			

NOTE: Date & initial all entries

DRAWING NO.	TITLE	REV. C	DART AEROSPACE LTD ENGINEERING ORDER	D.E.O. NO.	SHEET NO.	SCALE
D3196	BAR			D3196-C-1	SHEET 1 OF 2	NTS

DRAWN	CHECKED	MFG. APPR.	APPROVED	DE APPR.
AJS				
DATE 08.08.27	DATE 08.08.28	DATE 08.08.29	DATE 08.08.29	DATE 08.09.04

SHEET 1 MODIFY SLOT DIMENSIONING ON D3196-1 AS SHOWN:

IS:

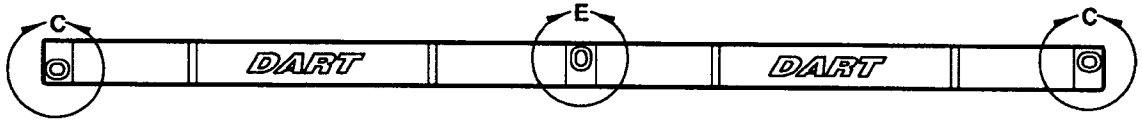
D3196-1 BAR

WAS:

D3196-1 BAR

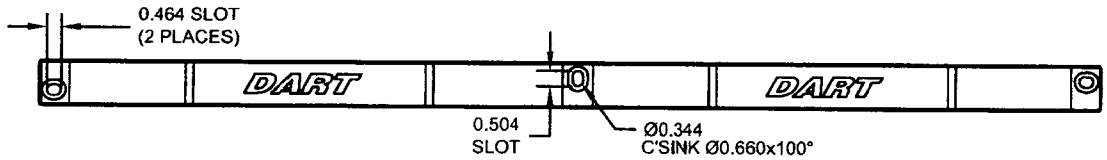
SHEET 2 MODIFY SLOT DIMENSIONING ON D3196-3 AS SHOWN:

IS:



D3196-3 BAR

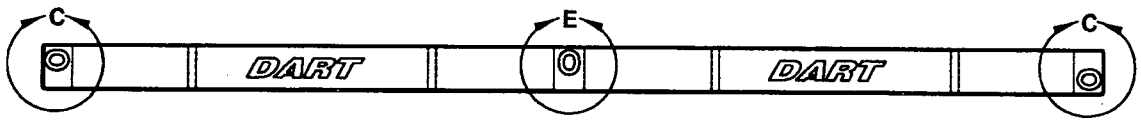
WAS:



D3196-3 BAR

SHEET 3 MODIFY SLOT DIMENSIONING ON D3196-4 AS SHOWN:

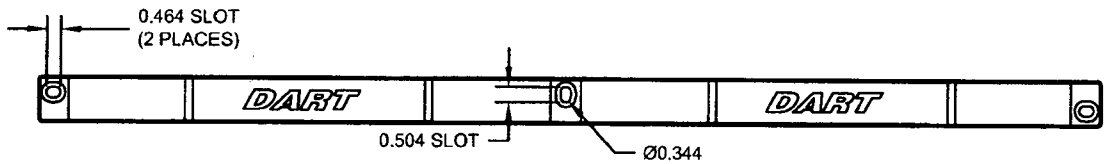
IS:



D3196-4 BAR

#71904

WAS:



D3196-4 BAR

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W/O:		WORK ORDER CHANGES					
DATE	**STEP**	**PROCEDURE CHANGE**	**By**	**Date**	**Qty**	**Approval** Chief Eng / Prod Mgr	**Approval** QC Inspector

Part No: _____ **PAR #:** _____ **Fault Category:** _____ **NCR:** Yes No **DQA:** _____ **Date:** _____

Resolution: _____ **Disposition:** _____ **QA: N/C Closed:** _____ **Date:** _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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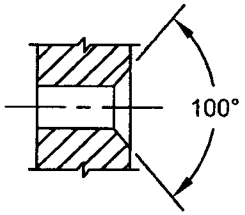
			Initial Chief Eng	**Action Description** Chief Eng	**Sign & Date**			

NOTE: Date & initial all entries

DRAWING NO.	TITLE	REV. C	DART AEROSPACE LTD ENGINEERING ORDER	D.E.O. NO.	SHEET NO.	SCALE
D3196	BAR			D3196-C-1	SHEET 2 OF 2	NTS

DRAWN	CHECKED	MFG. APPR.	APPROVED	DE APPR.
AJS				
DATE 08.08.27	DATE 08.08.28	DATE 08.08.29	DATE 08.08.29	DATE 08.09.04



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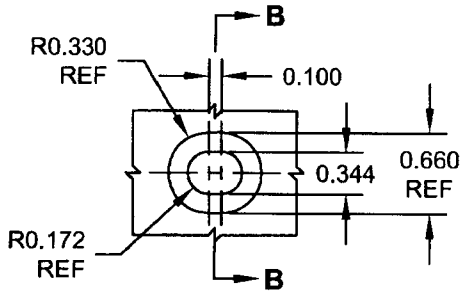
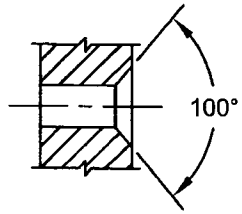
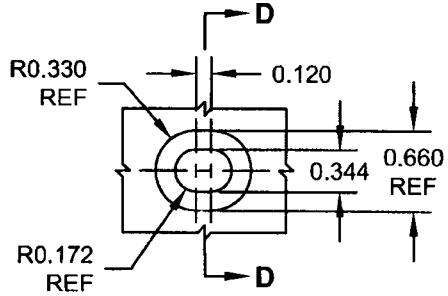


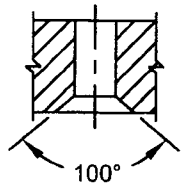
DETAIL A



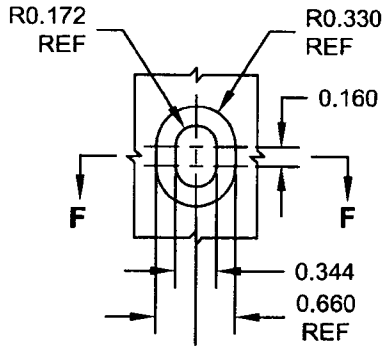
SECTION D-D



DETAIL C



SECTION F-F



DETAIL E

#71904

NOTE: THIS CHANGE HAS BEEN DONE TO CLARIFY SLOT DIMENSIONS ONLY. NO CHANGES HAVE BEEN MADE TO THE PARTS
SEE NCR 08-051 FOR FURTHER INFORMATION
ALL OTHER INFORMATION REMAINS UNCHANGED

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Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	**STEP**	**PROCEDURE CHANGE**	**By**	**Date**	**Qty**	**Approval** Chief Eng / Prod Mgr	**Approval** QC Inspector

Part No: _____ **PAR #:** _____ **Fault Category:** _____ **NCR:** Yes No **DQA:** _____ **Date:** _____

Resolution: _____ **Disposition:** _____ **QA: N/C Closed:** _____ **Date:** _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	**STEP**	**Description of NC** Section A	**Corrective Action** Section B			**Verification** Section C	**Approval** Chief Eng	**Approval** QC Inspector
			Initial Chief Eng	**Action Description** Chief Eng	**Sign & Date**			

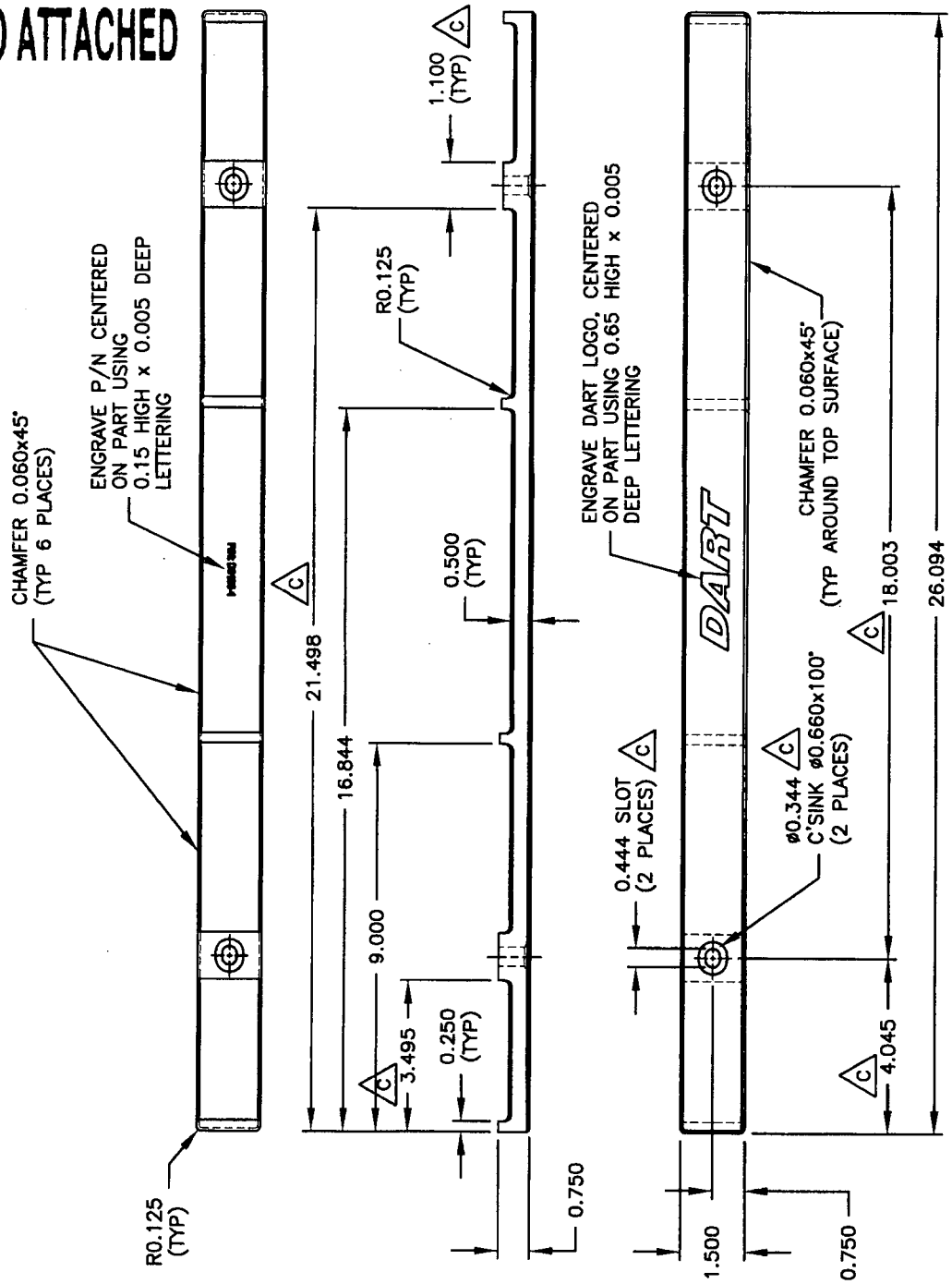
NOTE: Date & initial all entries

DESIGN	DRAWN BY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED PH	APPROVED	DRAWING NO. D3196	REV. C SHEET 1 OF 3
DATE 06.10.31		TITLE BAR	SCALE 1:4

A	03.06.25	NEW ISSUE
B	06.09.25	ADD D3196-5
C	06.10.31	ADD SLOTS ON -1; REMOVED -5

RELEASED
06.10.31

DEO ATTACHED



D3196-1 BAR

1) MATERIAL: 6061-T6/T651 ALUMINUM (QQ-A-200/8 OR QQ-A-225/8)
(REF DART SPEC. M6061T6B)
2) BREAK ALL SHARP EDGES 0.005 TO 0.010
3) FINISH: ACID ETCH AND ALODINE PER DART QSI 005 4.1
POWDER COAT GREY SANDTEX (4.3.5.6) PER DART QSI 005 4.3
4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
5) ALL DIMENSIONS ARE IN INCHES

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Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	**STEP**	**PROCEDURE CHANGE**	**By**	**Date**	**Qty**	**Approval** Chief Eng / Prod Mgr	**Approval** QC Inspector

Part No: _____ **PAR #:** _____ **Fault Category:** _____ **NCR:** Yes No **DQA:** _____ **Date:** _____

Resolution: _____ **Disposition:** _____ **QA: N/C Closed:** _____ **Date:** _____

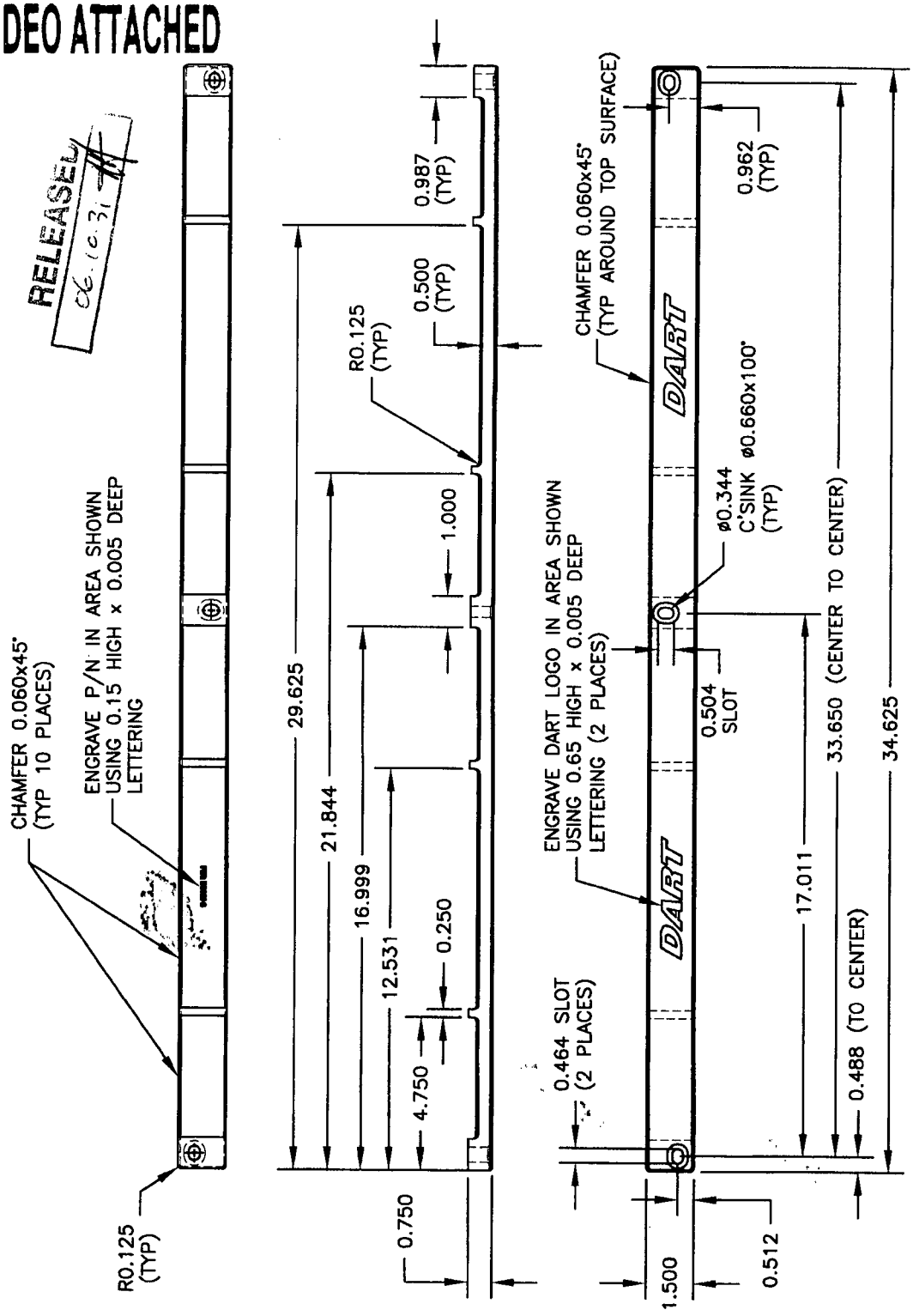
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	**STEP**	**Description of NC** Section A	**Corrective Action** Section B			**Verification** Section C	**Approval** Chief Eng	**Approval** QC Inspector
			Initial Chief Eng	**Action Description** Chief Eng	**Sign & Date**			

NOTE: Date & initial all entries

DESIGN	DRAWN BY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED PH	APPROVED	DRAWING NO. D3196	REV. C SHEET 2 OF 3
DATE 06.10.31		TITLE BAR	SCALE 1:5

DEO ATTACHED

RELEASED
06.10.31



D3196-3 BAR

1) MATERIAL: 6061-T6/T651 ALUMINUM (QQ-A-200/8 OR QQ-A-225/8)
(REF DART SPEC. M6061T6B)
2) BREAK ALL SHARP EDGES 0.005 TO 0.010
3) FINISH: ACID ETCH AND ALODINE PER DART QSI 005 4.1
POWDER COAT GREY SANDTEX (4.3.5.6) PER DART QSI 005 4.3
4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
5) ALL DIMENSIONS ARE IN INCHES

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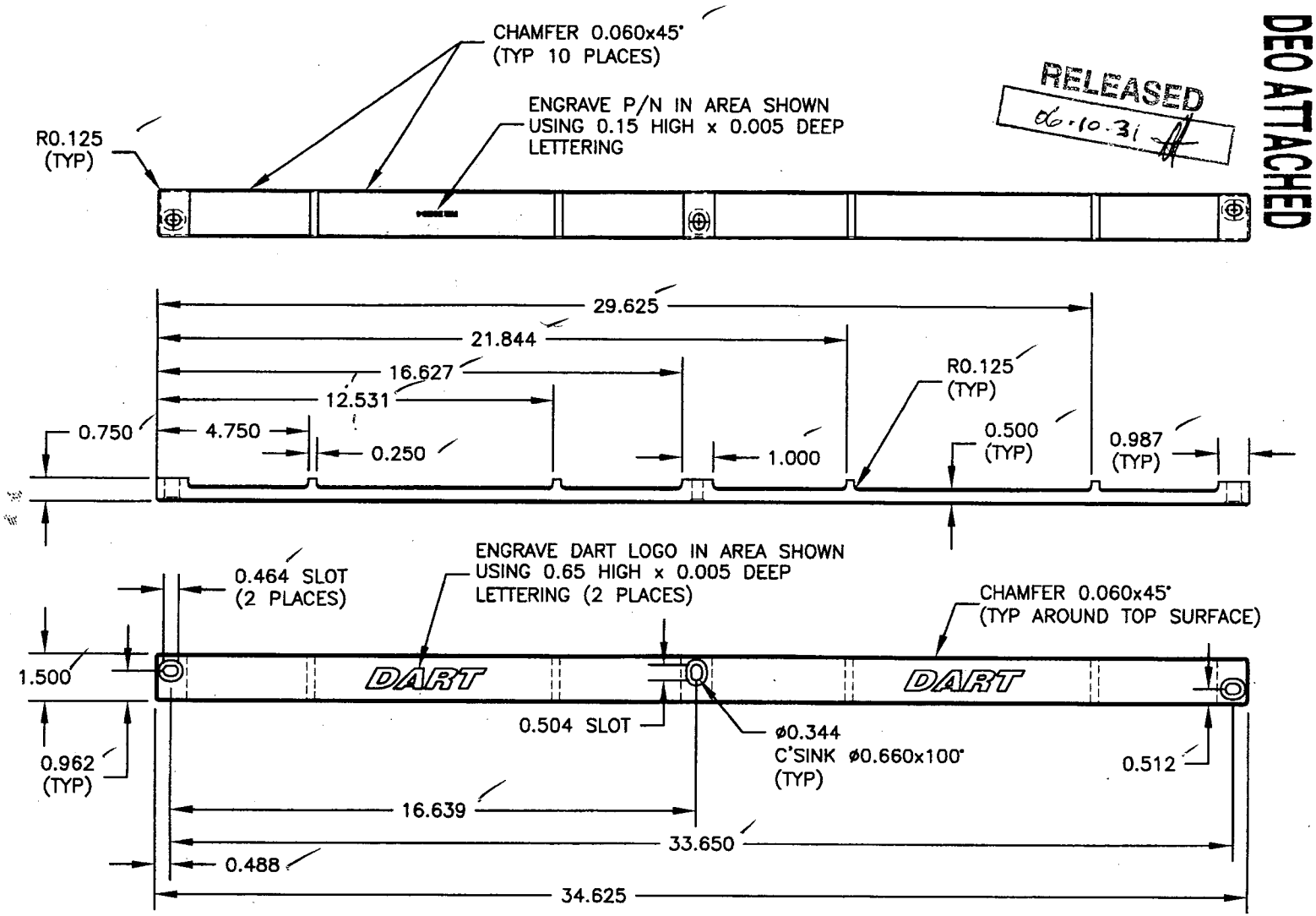
W/O:		WORK ORDER CHANGES					
DATE	**STEP**	**PROCEDURE CHANGE**	**By**	**Date**	**Qty**	**Approval** Chief Eng / Prod Mgr	**Approval** QC Inspector

Part No: _____ **PAR #:** _____ **Fault Category:** _____ **NCR:** Yes No **DQA:** _____ **Date:** _____

Resolution: _____ **Disposition:** _____ **QA: N/C Closed:** _____ **Date:** _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	**STEP**	**Description of NC** Section A	**Corrective Action** Section B			**Verification** Section C	**Approval** Chief Eng	**Approval** QC Inspector
			Initial Chief Eng	**Action Description** Chief Eng	**Sign & Date**			

NOTE: Date & initial all entries



RELEASED
06.10.31

DEO ATTACHED

D3196-4 BAR

1) MATERIAL: 6061-T6/T651 ALUMINUM (QQ-A-200/8 OR QQ-A-225/8)
   (REF DART SPEC. M6061T6B)
2) BREAK ALL SHARP EDGES 0.005 TO 0.010
3) FINISH: ACID ETCH AND ALODINE PER DART QSI 005 4.1
   POWDER COAT GREY SANDTEX (4.3.5.6) PER DART QSI 005 4.3
4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
5) ALL DIMENSIONS ARE IN INCHES

#71901

DART

DESIGN	DRAWN BY	DART AEROSPACE LTD
CHECKED	APPROVED	HAWKESBURY, ONTARIO, CANADA
DATE 06.10.31	DRAWING NO. D3196	REV. C
	TITLE BAR	SHEET 3 OF 3
		SCALE 1:5

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Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	**STEP**	**PROCEDURE CHANGE**	**By**	**Date**	**Qty**	**Approval** Chief Eng / Prod Mgr	**Approval** QC Inspector

Part No: _____ **PAR #:** _____ **Fault Category:** _____ **NCR:** Yes No **DQA:** _____ **Date:** _____

Resolution: _____ **Disposition:** _____ **QA: N/C Closed:** _____ **Date:** _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	**STEP**	**Description of NC** Section A	**Corrective Action** Section B			**Verification** Section C	**Approval** Chief Eng	**Approval** QC Inspector
			Initial Chief Eng	**Action Description** Chief Eng	**Sign & Date**			

NOTE: Date & initial all entries